

CLAIMS

1. Method for suppressing the evaporation of zinc in the hot dip coating of steel strip (3) with zinc or zinc alloys, wherein the metal strip (3) is guided through a furnace snout (1) immersed in the metal bath (2), guided around a deflecting roller (7) in the metal bath (2), and then emerges from the metal bath (2) at the top, characterized by the fact that a gas or gas mixture is present in the furnace snout (1) above the metal bath (2) as an isolating gas (4), which has poor thermal conductivity, a density $< 2 \text{ kg/m}^3$ and the property of being capable of reducing or eliminating turbulence of the gas or gas mixture above the surface of the metal bath.

2. Method in accordance with Claim 1, characterized by the fact that a hydrogen/nitrogen atmosphere is present above the layer of isolating gas.

3. Method in accordance with Claim 1 or Claim 2, characterized by the fact that argon is used as the isolating gas.

4. Method in accordance with Claim 1 or Claim 2, characterized by the fact that butane, propane, sulfur dioxide, hydrogen sulfide, acetylene, arsine, boron trichloride, boron trifluoride, butene, dichlorosilane, disilane, ethylene oxide, tetrafluoromethane, monochlorodifluoromethane, trifluoromethane, hexafluoroethane, tetrafluoroethene, isobutane, nitrogen dioxide, nitrogen trifluoride, nitric oxide, phosphine, propylene, silane, silicon tetrafluoride, silicon tetrachloride, sulfur tetrafluoride, tungsten hexafluoride, or any desired mixture of the aforementioned gases, with or without argon, is used as the isolating gas.

5. Method in accordance with any of Claims 1 to 3, characterized by the fact that a mixture of gases consisting of argon with admixtures of propane and/or butane is used as the isolating gas.